A SHORT COURSE IN MEDICAL GENETICS
One semester hour plus
clinical demonstrations

A. What is heredity
      Single factor inheritance. Dominance. Sex linkage.

B. Common hereditary factors
   6. The hemoglobins AND hereditary anemias.

C. Rare mutants in man
   7. Mutation. Metabolic diseases with physiological genetics of Neurospora, etc.,
      as background. Phenylketonuria: oligophrenia; alkaptonuria; tyrosinosis.
   8. Metabolic diseases: e.g., glycogen storage disease; galactosomic hepatomegaly;
      agammaglobulinemia; hemophilias. Metabolic individuality.

D. Polygenic inheritance
   9. Genetic factors in infectious and constitutional disease; cancer.
  10. Genetic factors in mental disease.

E. Genetic hygiene
   11. Aims and fallacies of eugenics; social and "industrial" medical problems from
       radiation (and chemicals?).

F. Experimental genetic studies on mammals
   12. Example—histocompatibility and acquired tolerance; the antibody response.

G. Microbial genetics
   14. Recombination mechanisms.
   15. Viruses (as organisms and as genes).

Note: This is a tentative outline of feasible topics. The syllabus would depend on
the judgment of the instructor.

Some of these topics may already be adequately covered in other course work. Every
effort should be made to correlate this with other offerings. It will be essential to
seek the cooperation of clinical specialists 1) for appropriate case demonstrations,
and 2) to ensure a balanced account of such topics as mental disease, eugenics and
radiation hazards. If there are pronounced differences of opinion within the medical
faculty, it may be profitable to arrange for joint presentations or discussions.

Student laboratory exercises would pose many problems, but might be worked out in
collaboration with other courses (clinical pathology; physiological chemistry; micro-
biology).

It would be helpful to have some standardization of preparation in genetics. If
most premedical students will already have included a course, it would be wise to urge
most of them to do so; if not, more emphasis may be needed on the blood groups.

The course is not designed to indoctrinate specialists, but to inculcate an ap-
preciation for the role of the genetic factor in the determination of disease and of
normal personal individuality. With this background, the student may be better equipped
to learn from his experience in the clinical years and his practice.

Text: Possibly "Harris—Introduction to Human Biochemical Genetics"
Reference Books: Sorsby—Clinical Genetics; Neel and Shull—Human Heredity;
    Stern—Human Genetics

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